

Microsoft® Windows® Server 2003,
Enterprise Edition, HP Integrity Servers
rx5670/rx4640/rx2600
IMPORTANT SYSTEM INFORMATION



March 2004 (Second Edition)
Part Number 357856-002

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Microsoft Windows Server 2003, Enterprise Edition, HP Integrity Servers rx5670/rx4640/rx2600

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I. General Issues on an HP Integrity Server with Windows Server 2003, Enterprise Edition

For the latest information and updates for Windows on an HP Integrity servers:

1. Go to <http://www.hp.com/support/itaniumservers>.
2. Click **HP Integrity on your server model number**

NOTE: It is highly recommended that you update your firmware and drivers to the latest versions. You may determine the firmware version currently on the system, by typing **info fw** at the EFI shell.

Blank screen during system startup

Issue: During system startup the screen may be blank for 3 to 8 minutes (the actual time depends on the quantity of the installed system memory).

Workaround: This is a normal operation. The system activity may be monitored within a few seconds of system power-on via a remote terminal.

No HDD status/failure LED indicators

Issue: The system HDD backplane lacks the manageability features which control the status/failure LEDs for the internal HDDs. If you experience an internal HDD failure, an LED indicator is not available to correctly inform you which drive has failed.

Workaround: If a Microsoft OS event error is generated for a HDD failure, you will need to use Disk Manager to determine the SCSI ID of the failed HDD. Use the SCSI ID to locate the failed drive in the system, and replace the HDD as necessary.

Low Virtual Memory error after software installation using Smart Setup on systems with terminal server

Issue: If your system has the terminal server installed, this issue appears when the user installs management agents or other applications that require reboot after installation completion. After the installation is completed successfully the user has an option to reboot the system immediately or reboot later. If the first option to reboot immediately is selected the system hangs at the logging off stage and after a few minutes a Low Virtual Memory error appears.

Work around:

1. After the installation is completed, select the option to restart later.
2. Close the Smart Setup window and restart the system by clicking **Start>Shutdown>Restart**.

EFI does not immediately recognize the addition or removal of a hard disk to the system

Issue: EFI does not immediately recognize the addition or removal of a hard disk to the system.

Workaround: If a hard disk is removed while at the EFI Boot Manager and the EBSU is started, some features may erroneously report that the hard disk is present but disk operations will fail. Once the drive is re-inserted, operations will complete successfully. For the best EFI and EBSU experience, do not remove or insert drives unless you run the `reconnect -r` and `map -r` commands at the EFI Shell immediately afterwards.

Instructions on how to configure the terminal emulator to connect to the Japanese edition of Windows Server 2003

Issue: Trouble connecting with the terminal emulator running Windows Server 2003 Japanese edition.

Workaround:

1. **The client operating system is running Windows Server 2003 Japanese**

Select **VT-UTF8** in the HyperTerminal and be sure to select **VT-UTF8 emulation** and the **MS Mincho** font.

2. **The client operating system is running Windows Server 2003 English**

Perform the following steps to change the appropriate Language and Regional settings to **Japanese** and change the font used by the HyperTerminal to display correctly.

- a. On the client system adjust the Regional and Language settings in the Control Panel to **Japanese** region and language.

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- b. In the Control Panel, Regional and Language Settings, Languages tab, select **Install files for East Asian Languages**.
 - c. In the Regional Options tab, select **Japanese**.
 - d. In the Advanced tab, select **Japanese** in the Non-Unicode Programs section and place a checkmark next to **10001 (MAC? Japanese)**. You will need to reboot for the changes to take effect.
 - e. After the reboot, run the HyperTerminal and select **VT-UTF8 emulation** and the **MS Mincho** font.
 3. **The client operating system is running Windows Server 2000 Japanese**

PUTTY.EXE is required because the VT-UTF8 emulation is not supported in the Windows Server 2000 version of the HyperTerminal.

From the **Putty Configuration > Windows > Translation**, select **VT-UTF8** in the Character set translation on received data.
 4. **The client operating system is running Windows Server 2000 English**

PUTTY.EXE is required because the VT-UTF8 emulation is not supported in the Windows Server 2000 version of the HyperTerminal.

 - a. On the client system adjust the **Regional and Language settings** in the **Control Panel** to **Japanese** region and language.
 - b. In the Control Panel, Regional and Language Settings, Languages tab, select **Install files for East Asian Languages**.
 - c. In the Regional Options tab, select **Japanese**.
 - d. In the Advanced tab, select **Japanese** in the Non-Unicode Programs section and place a checkmark next to **10001 (MAC? Japanese)**. You will need to reboot for the changes to take effect.
 - e. After the reboot, run **PUTTY.EXE**.
 - f. From the **Putty Configuration > Windows > Translation**, select **VT-UTF8** in the Character set translation on received data.
 - g. From the **Putty Configuration > Windows > Appearance**, select the **MS Mincho** font in Set the font used in the terminal window.
 - h. Click **Open** in the Putty Configuration window.

EFI command `drvcfg -f` and `drvcfg -s` fails on systems with 896 and 1010 SCSI controller causing the HP Integrity server to hang

Issue: `drvcfg -f` and `drvcfg -s` fails at the 896 and 1010 SCSI controller. The system hangs without any activity. This is a known problem with the current integrated SCSI EFI driver on the HP Integrity server.

Workaround: To fix this issue flash your firmware to version 1.03.01 or a later version. This is available on Smart Setup or at <http://www.hp.com/support/itaniumservers>.

Windows OS installation to a drive on an unintended boot controller

Issue: Windows OS installation is supported only with the intended boot controller installed. This is a known Windows OS limitation.

Workaround: Except for the intended boot controller, all other boot controllers should be removed before Windows OS installation. Make a note of where these devices were installed for reinstallation after OS installation.

Microsoft ntbackup.exe Update (Windows Server 2003 Family)

Issue: The built-in tape backup utility in Windows (ntbackup.exe) may experience problems during backup, which causes the backup to fail.

Workaround: To resolve this problem, apply the fix from the HP Smart Setup media. This fix (Q817688) has been provided by Microsoft. It is only intended to correct the problem that is described in the issue above. Apply it only to systems that are experiencing this specific problem.

NOTE: Tape spanning during backup is not supported at this time. Microsoft is aware of the issue and working to resolve it.

Storage Works 44xx enclosures in a split bus configuration with a single power supply may report errors and fail the logical volumes when attached to certain Smart Array controllers.

Issue: Storage Works 44xx Enclosures in a dual bus configuration with an Ultra3 Dual Bus I/O Module and a single power supply may report errors and fail the logical volumes when attached to Smart Array Controllers. Port A of the Storage Works 44xx Enclosure may intermittently report that all drives installed in the lower bays (Port A, bays 1-7) have been hot-plug replaced even though the drives have not been replaced. As a result, the array controller may fail the logical volumes, causing the data to become inaccessible or the server may hang or blue screen if the operating system is running from those drives. When the server is rebooted, the drives appear to be working properly; however, some data may be inaccessible. A Power-On Self-Test (POST) error message is not displayed. The problem occurs regardless of the position of the power supply or fans in the enclosure. This affects any Storage Works Enclosure Model 4314R, Model 4314T, or Model 4354R in a dual bus configuration with an Ultra3 Dual Bus I/O Module and a single power supply, attached to either Smart Array 5302 or Smart Array 5304 Controller.

Workaround: Operate the Storage Works Enclosure with a minimum of two power supplies.

Adobe Acrobat Reader 6.0 is not supported on Windows Server 2003

Issue: If you download Adobe Acrobat Reader 6.0 from the Adobe website you will not see the Windows Server 2003 OS listed in the platforms available.

Workaround: Download the Adobe Acrobat Reader from Adobe's Text-only download page. This allows for a general Windows install of the reader. HP recommends the usage of version 5.5 or lower on an HP Integrity rx2600 and rx5670.

APC SmartUPS Setup Issue on HP Integrity rx2600/rx4640

Issue: When setting up the APC SmartUPS in Windows Server 2003, the UPS control panel applet may not update the registry to use COM3 as the UPS port. HP is working with Microsoft to resolve this issue.

NOTE: Please ensure that you are using Version 5.00.15 or higher of the MP Serial driver. The driver is available on the *HP Smart Setup media*.

Workaround: The following steps should be taken to ensure correct setup of the UPS in Windows Server 2003:

1. Click **Start**.
2. Select **Settings, Control Panel**.

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3. Double-click **Power Options**.
 4. Select the **UPS** tab.
 5. Under the Details section, click **Select**.
 6. Under the Select Manufacturer drop-down box, select **American Power Conversion**.
 7. In the Select Models window, select **Smart-UPS** (please choose the appropriate UPS).
 8. Under the On Port drop box, select and click **COM3** (make sure you click **COM3**!)
 9. Click **Finish**.
 10. Under the Details section, click **Configure**.
Select your desired settings
 11. Click **Apply** and wait a few seconds for it to connect to UPS.
 12. Under the Status section, make sure the following display for your UPS is selected:
 - a. Estimated UPS runtime.
 - b. Estimated UPS capacity.
 - c. Battery Condition.
 13. Click **OK** to complete the setup.
- Proper operation of the UPS may now be tested.

The Power Control program in the Control Panel appears to work with a UPS but it is not working at all

Issue: The MP Serial driver is inserting NULL characters into the data stream causing the Power Control program to malfunction. It looks as if it is working, but it is not. This may be verified by checking the Estimated UPS runtime and Estimated UPS capacity under the Power Control program for the UPS in the Control Panel. Both should be showing data. If they are grayed out, then the program is not communicating with the UPS serial port.

Workaround: Install version 5.0.0.15 or later of the MP serial driver. Applications that perform error correction may not be affected.

Warning message about Fiber Gigabit Ethernet disconnect

Issue: At the power up Event ID:4 (a warning message with source b57nd or e1000) in the System Event Viewer is due to the way A7073A and A9899A perform auto negotiation.

Workaround: Verify that the warning is followed by an information message in the Event Viewer (Event ID:11) indicating "link up" for that particular connection.

Core Network Interface Card (NIC) for HP Integrity rx4640

HP AB352A is the core NIC on the HP Integrity rx4640 server. This adapter is a PCI-X, 133/66 Mhz card and is supported only in PCI slot 2. It has Wake on LAN (WoL) capabilities from port-A (lower port) in slot-2, however, due to some system limitations, moving AB352-60001 to slots 3-8 may cause issues when powering up the system.

Error logged to System Event Log when system boots with network cable disconnected

Issue: When the system boots with a network card which does not have a LAN cable connected to it, the HP Insight NIC Agent service will log an error into the System Event Log. This is because the service has not detected a network connection. It cannot differentiate between a disconnected cable and a bad cable. Additionally, as the error gets logged to the System Event Log, the system's attention LED on the front panel starts blinking.

Workaround: Verify the cable connection. If the cable is disconnected intentionally, ignore the error. The NIC cable should not be left unplugged.

Required steps to ensure successful kernel memory dump creation

Windows offers the ability to automatically manage the page file, though in systems with large memory configurations this requires committing more disk space than desired. Kernel memory dumps provide enhanced capability to debug a system failure. Administrators must set the page file size to a minimum of 20 GB to ensure successful creation of a kernel memory dump in the event of system failure. The entire 20 GB page file for a kernel memory dump may reside on the Windows system volume only. Other page files may be configured on other volumes as well, but a minimum of 20 GB page file must reside on the system volume. To increase the page file size:

1. Open the System Properties, select the **Advanced** tab, and navigate to the **Performance Options** frame.
2. Select the **Advanced** tab. Navigate to the **Virtual memory** frame.
3. Click **Change**.
4. Under **Drive**, select the volume where the page file will be located.
5. Under **Paging file size for selected drive**, select either **System managed size** or **Custom size**. Selecting **System managed size** will result in Windows sizing to page file to the recommended size. If this is too large, select **Custom size** and set the size to 20 GB.
6. Click **OK** on the current and next properties pages.

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7. Navigate to the **Startup and Recovery** frame and click **Settings**.
 8. Navigate to the Write debugging information frame and click Kernel memory dump.
 9. Click **OK** on the current and next properties pages.

Additionally, Windows will clear the dump from the page file to a separate file on disk after the system has rebooted. It is important to ensure the final dump (memory.dmp) is written to a location where sufficient storage exists to accommodate it. This file can be written to any disk.

To view or change the location of the final dump file:

1. Right click My Computer then Properties
2. Select the Advanced tab, then Startup and Recovery Settings.
3. Inside Write debugging information, select the lower text box, Dump file.
4. Choose a location with 20 GB of free space (enough to accommodate a very large memory dump).

Finally, users should install Microsoft QFE 822998, available here:

www.microsoft.com - diskdump.sys QFE

Creating a dump on an unresponsive system

CEs are recommended to exercise caution when performing this action since it results in system failure requiring a soft reset. If a system is unresponsive, a kernel memory dump can be created using either of two methods:

1. Using the SAC **crashdump** command. At the SAC prompt, type **crashdump**. The SAC display will be updated to reflect a fatal system error - "0x000000E2 - Manually Initiated Crash," and will indicate that a dump of physical memory is being created. Under certain conditions, CEs may observe a different bugcode - "0x0000000A - IRQL_NOT_LESS_OR_EQUAL." This is a known issue and will still result in a valid crash dump being created.
2. Using the MP, enter the Command Menu - 'cm'. To initiate the dump, use the 'tc' command. The SAC display will be updated to reflect a fatal system error - "0x000000E2 - Manually Initiated Crash," and will indicate that a dump of physical memory is being created.

Do not use the 16 GB option when using the re-install media

The system partition must be created on a 32GB or larger disk drive. When using re-install media, administrators and CEs should use either the 32 GB or the 'max drive size' option when configuring the system volume. Using the 16 GB option will result in an inability to create a kernel memory dump in the event of a system failure unless the page file size is manually configured afterward. Additionally, manual configuration of the page file size when using the 16 GB option will still result in a page file size of less than 20 GB, which is the minimum recommended size.

System Restore Media and Page Files

Issue: Using the 16GB option will result in an inability to create a kernel memory dump in the event of system failure unless the page file size is manually configured afterward.

Workaround: The system partition must be created on a 32GB or larger disk drive. When using the reinstall media, administrators and CE's should use either 32 GB or 'max drive size' options when configuring the system volume. Additionally, manual configuration of the page file size, when using the 16GB option, will still result in a page file size of less than 20 GB, which is the minimum recommended size.

II. General Issues on an HP Integrity rx2600 with Windows Server 2003, Enterprise Edition

EFI reconnect -r command turns system status light red

Issue: Issuing an EFI reconnect -r command with more than two USB devices connected to the system will turn the system status light to red (causes a level 7 message in the BMC log).

Workaround: Clear the BMC log and reboot the system.

SCSI cable limitations for PCI Slot 2 and 3 (restricted I/O cards)

Issue: Due to SCSI cable limitations the following I/O cards are not supported in PCI slots 2 and 3 of the HP Integrity rx2600:

A7060A Dual Port U160 SCSI

A7059A Single Port U160 SCSI

P7749A NetRAID 2M

A9825A SA5302

A9826A SA5304

This limits the total number of cards supported to three in any combination.

Workaround: Use another slot.

U320 SCSI Hard drive requires the latest firmware version

In order to support the SCSI U320 mode of operation the SCSI controller firmware version embedded in system firmware should be 1.80 (or later). Previous firmware releases only support SCSI connect rates as high as U160. To determine the firmware version currently on the system, at the EFI shell prompt, type: `info fw`

System firmware **must** be upgraded before replacing or installing a U320 drive in the HP Integrity rx2600. System firmware version 1.80 (or later) can be downloaded from the HP website at <http://www.hp.com/support/itaniumservers>.



WARNING: Using U320 drives with a system firmware version earlier than 1.80 will result in poor performance and may cause system hangs and possible loss of data.

Smart Array 53xx card does not fit in PCI slots 0 or 3 of the HP Integrity rx2600

Issue: Smart Array 53xx does not fit in PCI slots 0 and 3 of the HP Integrity rx2600.

Workaround: None. Due to mechanical constraints, the Smart Array 53xx series cards are only supported in PCI slots 1 and 2 of the HP Integrity rx2600.

Several Event 11 and Event 15 SCSI events logged in the Windows Event Log

Issue: When logging into Windows, the SCSI U320 driver may record several Event 11 and Event 15 SCSI events in the Windows System Event Log (this log is viewable with the Windows System Event Viewer). An Event 11 is a device detected a controller error \Device\harddisk0\DR0. An Event 15 is a device, \Device\SCSI\symmpi1, is not ready for access yet. This is caused by the Windows OS issuing IO requests in excess of an HDD's queue depth, which in turn issues "queue full" responses to the associated SCSI Port which, after it hits its "queue full" threshold for the HDD, triggers the event log.

NOTE: These events do not reoccur when Windows login is complete. If these Events are generated during login, they can be ignored.

Workaround: Download the latest SCSI driver from <http://www.hp.com/support/itaniumservers> to fix this issue.

III. General Issues on an HP Integrity rx5670/rx2600 with Windows Server 2003, Enterprise Edition

The Smart Array 530x/640x controllers do not automatically rebuild the internal HDD array when a failed drive is replaced

Issue: The Smart Array 530x/640x controller does not automatically rebuild the internal HDD array when a failed drive is replaced. The HP Integrity Server backplane does not provide the manageability features necessary for the Smart Array adapters to recognize an HDD when it is hot inserted into the system. As a result the Smart Array does not automatically rebuild the array when a failed drive is replaced.

Workaround: HDD arrays can be manually detected and rebuilt utilizing the following steps:

1. Download and flash the latest Smart Array firmware available from <http://www.hp.com/support/itaniumservers>.

NOTE: Minimum firmware revision for the SA530x controller is 3.54. Minimum firmware revision for the SA640x controller is 1.92

2. Download and install the latest Array Configuration Utility (ACU-XE) from www.hp.com/support/itaniumservers. The minimum required revision for the ACU-XE is 6.42.1.0.
3. If and when an internal HDD array fails, replace the failed physical drive, open the ACU utility and select “Refresh” in the Controller State field. The failed array will then begin rebuilding. This is a required step and will not be performed automatically by ACU.

NOTE: HDD failures will be detected by the HP Integrity Agents as well as the Windows System Event Log.

Configure the Smart Array 5302/5304 as a boot controller over headless connection

Issue 1: The Telnet and Hyperterminal applications on Windows NT4 and Windows 2000 do not correctly map the ASCII string for the function keys.

Workaround: To transmit the correct ASCII string using these applications from a remote terminal, press the **Esc** key immediately followed (within 1 second) by the numeric value of the desired function key. For example, to send the ASCII string for **F8**, press the **Esc** key immediately followed by pressing the **8** key. Note that if the terminal emulator is set to UTF-8 then you can press the F8 key.

Issue 2: During Power On Self Test (POST) the Smart Array firmware will display a banner and a configuration menu with instructions to press the **Esc** key to continue or the **F8** key to enter the configuration utility. When running the system in a headless configuration from a remote terminal, the Smart Array banner does not show the configuration menu during the Power On Self Test (POST).

Workaround: To enter the configuration utility during POST, press the **Esc** key immediately followed by pressing the **8** key after the Smart Array banner is displayed on the remote console.

Example Banner: "HP Smart Array 5302-128 Controller (Version 3.32) 1 Logical Drive"

Smart Array 5302/5304 Event log warning recorded after consistency check

Issue: This version of the Event Notification driver will report the following "Warning" message in the Windows System Event log after a consistency check is performed on a logical volume:

"The description for Event ID (24607) in Source (CPQCISSE) could not be found. It contains the following insertion string(s):" **Example string:** "\Device\CPQCISSE0, 11, Parity/consistency initialization complete, logical drive 0."

Workaround: This is a known issue that will be corrected in the next release of the driver. The actual message should be an informational message reporting the success of the consistency check.

Smart Array 5302/5304 timeout in event log (Event ID 9)

Issue: Under extremely heavy I/O conditions the Smart Array driver (cpqcissm) may generate Event ID 9 errors in the system event log.

Workaround: There is no known fix at this time. This issue does not result in the loss of any data.

The NIC cable should not be left unplugged

The HP Insight NIC agent will log and send error messages if the NIC cable is left unplugged.

IV. General Issues on an HP Integrity rx4640 with Windows Server 2003, Enterprise Edition

Hot-plug Support on the HP Integrity rx4640

Please ensure you have system firmware version 2.10 or greater to enable support for Hot Plug. Hot Plug is not supported on older versions of the system firmware. Upgrade to the latest firmware revisions to get hot-plug support.

Installation of Secure Path version 4.0C using the Microsoft Terminal Server

When installing Secure Path v4.0C on a system running Microsoft Terminal Server, ensure you closely follow the installation instructions provided with the Secure Path software, particularly 'changing the Terminal Server from Execution Mode to Installation Mode'. (See page 20 of the Installation and Reference Guide AA-RL4SG-TE). Failure to do so will result in an installation failure.

Smart Array 6402 SCSI bus fault results in a downshift in the transfer rate from U320 (Event ID 24683)

Issue: When booting from a SA6402 controller while connected to a SW4454 or a internal HDD enclosure could generate Event ID 24683 errors in the system event log: "SCSI bus fault occurred on Storage Box 0, Port 0 of Array Controller in slot 1, which may result in a "downshift" in the transfer rate for one or more hard drives on the bus".

Workaround: There is no known fix at this time. This issue does not result in data loss.

V. Supplemental EFI information

Intel EFI information is available on <http://www.intel.com/technology/efi/>